

Monday, August 8, 1994 5:51 PM

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EDITED 08/08/94.CON.SEQ Map (1 > 1643)Site and Sequence

Enzymes : All 417 enzymes (No Filter)

Settings : Circular, Certain Sites Only, Standard Genetic Code

GGCACGAGCGGCTGCCTGGCTGACITACAGCAGTCAAGACTCTGACAGGTTTCATGGCTATGATGAGGTCC
CCGTGCTCGCCGACGGACCGACTGAATGTCGTCAGTCTGAGACTGTCCAAGTACCGATACTACCTCCAGG 70

G T S G C L A D L Q Q S D S D R F M A M M E V
A R A A A W L T Y S S Q T L T G S W L . W R S
R H E R L P G . L T A V R L . Q V H G Y D G G P
P V L P Q R A S K C C D S E S L N M A I I S T W
A R A A A Q S V . L L . V R V P E H S H H L D
C S R S G P Q S V A T L S Q C T . P . S P P G

AGGGGGGACCGAGCTGGGACAGACCTGCGTGCTGATCGTGATCTTCACAGTGCTCCTGCAGTCTCTCTG
TCCCCCTGGGTGCGACCGTGTCTGGACGCACGACTAGCACTAGAAGTGTCACGAGGACGTCAGAGAGAC 140

Q G G P S L G Q T C V L I V I F T V L L Q S L C
R G D P A W D R P A C . S . S S Q C S C S L S
G G T Q P G T D L R A D R D L H S A P A V S L
P P G L R P C V Q T S I T I K V T S R C D R Q
L P S G A Q S L G A H Q D H D E C H E Q L R E T
P P V W G P V S R R A S R S R . L A G A T E R

TGTGGCTGTAACCTACGTGTACTTTACCAACGAGCTGAAGCAGATGCAGGACAACTACTCQAAAAGTGGC
ACACCGACATTGAATGCACATGAAATGGTTGCTCGACTTCGTCTACGTCCTGTTTCATGAGGTTTTACCG 210

V A V T Y V Y F T N E L K Q M Q D K Y S K S G
V W L . L T C T L P T S . S R C R T S T P K V A
C G C N L R V L Y Q R A E A D A G Q V L Q K W
T A T V . T Y K V L S S F C I C S L Y E L L P
H S Y S V H V K G V L Q L L H L V L V G F T A
H P Q L K R T S . W R A S A S A P C T S W F H C

ATTGCTTGTTTCTTAAAAGAAGATGACAGTTATTGGGACCCCAATGACGAAGAGAGTATGAACAGCCCCT
TAACGAACAAAGAATTTTCTTCTACTGTCAATAACCCTGGGGTTACTGCTTCTCTCATACTTGTCGGGGA 280

I A C F L K E D D S Y W D P N D E E S M N S P
L L V S . K K M T V I G T P M T K R V . T A P
H C L F L K R R . Q L L G P Q . R R E Y E Q P L
M A Q K K F S S S L . Q S G L S S S L I F L G Q
N S T E . F F I V T I P V G I V F L T H V A G
Q K N R L L L H C N N P G W H R L S Y S C G R

Steven M. Ruben
Appl. No. 10/662,429

Ruben EXHIBIT #152

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GCTGGCAAGTCAAGTGGCAACTCCGTCAGCTCGTTAGAAAGATGATTTTGAGAACCTCTGAGGAAACCAT

350

CGACCGTTCAGTTCACCGTTGAGGCAGTCGAGCAATCTTTCTACTAAAACTCTTGGAGACTCCTTTGGTA

C W Q V K W Q L R Q L V R K M I L R T S E E T I

A G K S S G N S V S S L E R . F . E P L R K P

L A S Q V A T P S A R . K D D F E N L . G N H

Q C T L H C S R . S T L F I I K L V E S S V M

A P L D L P L E T L E N S L H N Q S G R L F G N

S A L . T A V G D A R . F S S K S F R Q P F W

TTCTACAGTTCAAGAAAAGCAACAAAATATTTCTCCCCTAGTGAGAGAAAGAGGTCCTCAGAGAGTAGCA

420

AAGATGTCAAGTTCCTTTTCGTTGTTTTATAAGAGGGGATCACTCTCTTTCTCCAGGAGTCTCTCATCGT

S T V Q E K Q Q N I S P L V R E R G P Q R V A

F L Q F K K S N K I F L P . . E K E V L R E . Q

F Y S S R K A T K Y F S P S E R K R S S E S S

E V T . S F C C F I E G R T L S L P G . L T A

R C N L F L L L I N R G . H S F S T R L S Y C

K . L E L F A V F Y K E G L S L F L D E S L L L

GCTCACATAACTGGGACCAGAGGAAGAAGCAACACATTGTCTTCTCCAAACTCCAAGAATGAAAAGGCTC

490

CGAGTGTATTGACCCTGGTCTCCTTCTTCGTTGTGTAACAGAAGAGGTTTGAGGTTCTTACTTTTCCGAG

A H I T G T R G R S N T L S S P N S K N E K A

L T . L G P E E E A T H C L L Q T P R M K R L

S S H N W D Q R K K Q H I V F S K L Q E . K G S

A . M V P V L P L L L V N D E G F E L F S F A R

S V Y S P G S S S A V C Q R R W V G L I F L S

E C L Q S W L F F C C M T K E L S W S H F P E

TGGGCCGCAAAATAAACTCCTGGGAATCATCAAGGAGTGGGCATTTCATTCTGAGCAACTTGCACTTGAG

560

ACCCGGCGTTTTATTTGAGGACCCTTAGTAGTTCCTCACCCGTAAGTAAGGACTCGTTGAACGTGAACTC

L G R K I N S W E S S R S G H S F L S N L H L R

W A A K . T P G N H Q G V G I H S . A T C T .

G P Q N K L L G I I K E W A F I P E Q L A L E

P R L I F E Q S D D L L P C E N R L L K C K L

Q A A F Y V G P F . . P T P M . E Q A V Q V Q P

P G C F L S R P I M L S H A N M G S C S A S S

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GAATGGTGAAGTGGTCATCCATGAAAAAGGGTTTTACTACATCTATTCCCAAACATACTTTTCGATTTCAG
CTTACCACTTGACCACTAGGTACTTTTTCCCAAATGATGTAGATAAGGGTTTGTATGAAAGCTAAAGTC

630

N G E L V I H E K G F Y Y I Y S Q T Y F R F Q
G M V N W S S M K K G F T T S I P K H T F D F R
E W . T G H P . K R V L L H L F P N I L S I S
F P S S T M W S F P N . . M . E W V Y K R N .
I T F Q D D M F F P K V V D I G L C V K S K L
S H H V P . G H F L T K S C R N G F M S E I E P

GAGGAAATAAAAGAAAACACAAAGAACGACAAACAAATGGTCCAATATATTTACAAATACACAAGTTATC
CTCCTTTATTTTCTTTTGTGTTTCTTGCTGTTTGTGTTTACCAGGTTATATAAATGTTTATGTGTTCAATAG

700

E E I K E N T K N D K Q M V Q Y I Y K Y T S Y
R K . K K T Q R T T N K W S N I F T N T Q V I
G G N K R K H K E R Q T N G P I Y L Q I H K L S
S S I F S F V F F S L C I T W Y I . L Y V L . G
L F Y F F V C L V V F L H D L I N V F V C T I
P F L L F C L S R C V F P G I Y K C I C L N D

CTGACCCTATATTGTTGATGAAAAGTGCTAGAAATAGTTGTTGGTCTAAAGATGCAGAATATGGACTCTA
GACTGGGATATAACAACACTACTTTTCACGATCTTTATCAACAACCAGATTTCTACGTCTTATACCTGAGAT

770

P D P I L L M K S A R N S C W S K D A E Y G L Y
L T L Y C . . K V L E I V V G L K M Q N M D S
. P Y I V D E K C . K . L L V . R C R I W T L
S G I N N I F L A L F L Q Q D L S A S Y P S .
R V R Y Q Q H F T S S I T T P R F I C F I S E I
Q G . I T S S F H . F Y N N T . L H L I H V R

TTCCATCTATCAAGGGGAATATTTGAGCTTAAGGAAAATGACAGAATTTTGTGTTCTGTAACAAATGAG
AAGGTAGATAGTTCCCCCTTATAAACTCGAATTCCTTTTACTGTCTTAAAAACAAAGACATTGTTTACTC

840

S I Y Q G G I F E L K E N D R I F V S V T N E
I P S I K G E Y L S L R K M T E F L F L . Q M S
F H L S R G N I . A . G K . Q N F C F C N K .
E M . . P P I N S S L S F S L I K T E T V F S
G D I L P S Y K L K L F I V S N K N R Y C I L
N W R D L P F I Q A . P F H C F K Q K Q L L H A

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CACTTGATAGACATGGACCATGAAGCCAGTTTTTTTCGGGGCCTTTTTAGTTGGCTAACTGACCTGGAAG
GTGAACTATCTGTACCTGGTACTTCGGTCAAAAAGCCCGGAAAATCAACCGATTGACTGGACCTTTC 910
H L I D M D H E A S F F G A F L V G . L T W K
T . . T W T M K P V F S G P F . L A N . P G K
A L D R H G P . S Q F F R G L F S W L T D L E R
C K I S M S W S A L K K P A K K T P . S V Q F S
V Q Y V H V M F G T K E P G K . N A L Q G P F
S S L C P G H L W N K R P R K L Q S V S R S L
AAAAAGCAATAACCTCAAAGTGACTATTCAGTTTTTCAGGATGATACACTATGAAGATGTTTCAAAAAATC 980
TTTTTCGTTATTGGAGTTTCACTGATAAGTCAAAAAGTCCTACTATGTGATACTTCTACAAAGTTTTTTAG
E K A I T S K . L F S F Q D D T L . R C F K K S
K K Q . P Q S D Y S V F R M I H Y E D V S K N
K S N N L K V T I Q F S G . Y T M K M F Q K I
F A I V E F H S N L K . S S V S H L H K L F D
F F C Y G . L S . E T K L I I C . S S T E F F R
F L L L R L T V I . N E P H Y V I F I N . F I
TGACCAAAACAAACAGAAAACAGAAAACAAAAAACCTCTATGCAATCTGAGTAGAGCAGCCACAA 1050
ACTGGTTTTGTTTGTCTTTTGTCTTTTGTCTTTTGGAGATACGTTAGACTCATCTCGTCGGTGT
D Q N K Q T E N R K Q K N L Y A I . V E Q P Q
L T K T N K Q K T E N K K T S M Q S E . S S H N
P K Q T N R K Q K T K K P L C N L S R A A T
S W F L C V S F L F C F F R . A I Q T S C G C
V L V F L C F V S F L F V E I C D S Y L L W L
Q G F C V F L F C F V F F G R H L R L L A A V V
CCAAAAATTCTACAACACACTGTTCTGAAAGTGACTCACTTATCCCAAGAAAATGAAATTGCTGAAA 1120
GGTTTTTAAGATGTTGTGTGTGACAAGACTTTCAGTGAATAGGGTTCTTTTACTTTAACGACTTT
P K N S T T H T V L K V T H L S Q E N E I A E
Q K I L Q H T L F . K . L T Y P K K M K L L K
T K K F Y N T H C S E S D S L I P R K . N C . K
G F F E V V C V T R F T V . K D W S F S I A S L
W F I R C C V S N Q F H S V . G L F I F N S F
L F N . L V C Q E S L S E S I G L F H F Q Q F

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GATCTTTCAGGACTCTACCTCATATCAGTTTGCTAGCAGAAATCTAGAAGACTGTCAGCTTCCAAACATT 1190
CTAGAAAGTCCTGAGATGGAGTATAGTCAAACGATCGTCTTTAGATCTTCTGACAGTCGAAGGTTTGTA
R S F R T L P H I S L L A E I . K T V S F Q T L
D L S G L Y L I S V C . Q K S R R L S A S K H
I F Q D S T S Y Q F A S R N L E D C Q L P N I
D K L V R G . I L K S A S I . F V T L K W V N
S R E P S . R M D T Q . C F D L L S D A E L C .
I K . S E V E Y . N A L L F R S S Q . S G F M
AATGCAATGGTTAACATCTTCTGTCTTTATAATCTACTCCTTGTAAGACTGTAGAAGAAAGCGCAACAA 1260
TTACGTTACCAATTGTAGAAGACAGAAATATTAGATGAGGAACATTTCTGACATCTTCTTTTCGCGTTGTT
M Q W L T S S V F I I Y S L . R L . K K A Q Q
C N G . H L L S L . S T P C K D C R R K R N N
N A M V N I F C L Y N L L L V K T V E E S A T
I C H N V D E T K I I . E K Y L S Y F F A C C
H L P . C R R D K Y D V G Q L S Q L L F R L L
L A I T L M K Q R . L R S R T F V T S S L A V I
TCCATCTCTCAAGTAGTGTATCACAGTAGTAGCCTCCAGGTTTCCTTAAGGGACAACATCCTTAAGTCAA 1330
AGGTAGAGAGTTTCATCACATAGTGTGCATCATCGGAGGTCCAAAGGAATTCCCTGTTGTAGGAATTCAGTT
S I S Q V V Y H S S S L Q V S L R D N I L K S
P S L K . C I T V V A S R F P . G T T S L S Q
I H L S S S V S Q . . P P G F L K G Q H P . V K
D M E . T T Y . L L L R W T E K L S L M R L D F
G D R L Y H I V T T A E L N G . P V V D K L .
W R E L L T D C Y Y G G P K R L P C C G . T L
AAGAGAGAAGAGGCACCACTAAAAGATCGCAGTTTGCCTGGTGCAGTGGCTCACACCTGTAATCCCAACA 1400
TTCTCTCTTCTCCGTGGTGATTTTCTAGCGTCAAACGGACCACGTCACCGAGTGTGGACATTAGGGTTGT
K E R R G T T K R S Q F A W C S G S H L . S Q H
K R E E A P L K D R S L P G A V A H T C N P N
R E K R H H . K I A V C L V Q W L T P V I P T
S L L P V V L L D C N A Q H L P E C R Y D W C
F L S S A G S F S R L K G P A T A . V Q L G L M
L S F L C W . F I A T Q R T C H S V G T I G V

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TTTTGGGAACCCAAGGTGGGTAGATCACGAGATCAAGAGATCAAGACCATAGTGACCAACATAGTGAAAC
1470
AAAACCCTTGGGTTCACCCATCTAGTGCTCTAGTTCTCTAGTTCTGGTATCACTGGTTGTATCACTTTG
F G N P R W V D H E I K R S R P . . P T . . N
I L G T Q G G . I T R S R D Q D H S D Q H S E T
F W E P K V G R S R D Q E I K T I V T N I V K
K P F G L H T S . S I L L D L G Y H G V Y H F
K P V W P P Y I V L D L S . S W L S W C L S V
N Q S G L T P L D R S . S I L V M T V L M T F G
CCCATCTCTACTGAAAGTGCAAAAATTAGCTGGGTGTGTTGGCACATGCCTGTAGTCCCAGCTACTTGAG
1540
GGGTAGAGATGACTTTTCACGTTTTTAATCGACCCACACAACCGTGTACGGACATCAGGGTCGATGA
P I S T E S A K I S W V C W H M P V V P A T .
P S L L K V Q K L A G C V G T C L . S Q L L E
P H L Y . K C K N . L G V L A H A C S P S Y L R
G M E V S L A F I L Q T H Q C M G T T G A V Q S
G D R S F T C F N A P H T P V H R Y D W S S S
W R . Q F H L F . S P T N A C A Q L G L . K L
AGGCTGAGGCAGGAGAATCGTTTGAACCCGGGAGGCAGAGGTTGCAGTGTGGTGAGATCATGCCACTACA
1610
TCCGACTCCGTCTCTTAGCAAACCTTGGGCCCTCCGTCTCCAACGTACACCACTCTAGTACGGTGATGT
E A E A G E S F E P G R Q R L Q C G E I M P L H
R L R Q E N R L N P G G R G C S V V R S C H Y
G . G R R I V . T R E A E V A V W . D H A T T
A S A P S D N S G P L C L N C H P S I M G S C
L S L C S F R K F G P P L P Q L T T L D H W . V
P Q P L L I T Q V R S A S T A T H H S . A V V
CTCCAGCCTGGCGACAGAGCGAGACTTGGTTTC
1643
GAGGTCCGACCGCTGTCTCGCTCTGAACCAAAG
S S L A T E R D L V S
T P A W R Q S E T W F
L Q P G D R A R L G F
E L R A V S R S K T L
G A Q R C L S V Q N A
S W G P S L A L S P K

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